Page 2

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

A method of determining a soft material structure, 1. (Currently Amended) comprising:

taking transmission electron microscopy images of a soft material under conditions that a plurality of crystallographically significant directions are selected in succession as incident axes of electrons,

converting the images to data in into electronic form,

Fourier transforming the data generated from each of the images to obtain a twodimensional Fourier diffraction pattern from each,

from the two dimensional Fourier diffraction patterns, making a distribution of diffraction intensities on the three-dimensional reciprocal lattice points and determining a unique space group therefrom,

obtaining an origin point of space coordinates on the basis of the determined space group, and, thus,

determining directly from the Fourier-transformed data the amplitudes and phases of three-dimensional crystal structure factors, the phases being directly determined assuming weak topological object approximation,

performing inverse Fourier transforms using the determined amplitudes and phases, and

determining the structure of the soft material therefrom.

Appl. No.: 10/031,081 September 8, 2003

Reply to Final Office Action of May 8, 2003

Page 3

2. (Original) A method of determining a soft material structure as described in claim

1, wherein the transmission electron microscopy images are photographed from at least three

different directions.

3. (Original) A method of determining a soft material structure as described in claim

1, wherein the soft material is a light element, a porous material, a combination of light

elements, a combination of porous materials or a combination of a light element and a porous

material.

4. (Original) A method of determining a soft material structure as described in claim

1, wherein the soft material is a substance selected from the group consisting of mesoporous

materials, surfactants, copolymerized macromolecules, biological membranes and liquid

crystals.

5. (Original) A method of determining a soft material structure as described in claim

3, wherein the soft material is a substance selected from the group consisting of mesoporous

materials, surfactants, copolymerized macromolecules, biological membranes and liquid

crystals.

6. (Previously presented) A method of determining a soft material structure as

described in claim 1, wherein the images used to provide the data for Fourier transform are

partial areas of images corresponding to no greater than 50 nm-thick parts of a sample of the

soft material.

Appl. No.: 10/031,081 September 8, 2003

Reply to Final Office Action of May 8, 2003

Page 4

7. (Previously presented) The method of claim 1, wherein the electron microscopy images are obtained with a high-resolution transmission electron microscope.

8. (Currently amended) The method of claim 1, wherein, for diffracted waves in a region of high spatial frequency, the influence of aberration in an objective lens is reduced through estimation of the amount of defocus using a Weiner Wiener filter.